

**NOAA'S R&D HPCS ACQUISITION
SOLICITATION NUMBER DG1330-05-RP-1038
QUESTIONS AND ANSWERS
AMENDMENT 0006**

Question 163. In section C.5.2.6.1 the Government provides data generation rates for workstreams 1 through 3 (1.4 TB/day, 2.6 TB/day, and 1 TB/day, respectively) for a baseline level of performance for these workstreams. Do these data generation rates correspond to the current Origin LSC baseline or to the Altix LSC baseline to be installed in April 2005?

If these data generation rates correspond to the Origin baseline, for the purpose of projecting data generation into the future, should we assume that the Origin baseline has a relative performance level of 1.0, and the Altix baseline has a relative performance level of 1.8, as stated in appendix A (C.10.1.3, page 40)? Such an assumption is necessary because the Government did not provide throughput benchmarks (section J.1.4.2.4) for the Origin baseline and therefore our performance baseline comparisons can only be made to the Altix baseline.

If this assumption is correct, then the data generation rates expected from the Altix system beginning in April 2005 would be 1.5 (1.8 raised to the 0.7 power) times the values stated above, or 2.1 TB/day, 3.9 TB/day, and 1.5 TB/day respectively -- correct?

Answer: The baseline numbers correspond to the Origin systems. The assumption and formula calculation seem correct.

Question 245. 1. We interpret the answer to question 166 to say that if a single resource is proposed to meet the needs of (for example) WS1, 2, and 3 that for the purpose of both the SLT calculation and the Throughput Benchmark the combined resource *must* be proportioned according to the funding profile in C.4.3 Table 1 - that is exactly 4/14ths of the resource for WS1, 6/14ths for WS2, and 4/14ths for WS3. Is this correct?

If it is correct may we assume that the resource can be divided either spatially or temporally for the SLT calculation (e.g. WS1 uses 4/14ths of the resource for all of the year or all of the resource for 4/14ths of the year)?

2. Now suppose that a workstream (e.g. WS1) runs so well that 16 instances run in the same time as the required 8 instances for the Throughput Benchmark when constrained to using the 4/14ths of the combined resource. And suppose further that applying the unused part of that 4/14ths of the resource from WS1 to the 6/14ths of the resource intended for WS2 allows WS2 to run twice as fast, thereby resulting in a significant decrease in the total of the Throughput benchmark for WS1, 2 and 3 combined.

Are we to understand from the answer to question 166 that the government requires the combined resource to be proportioned as the ratio of funding streams even if the combined Throughput Benchmarks on the combined resource run faster if the resource is proportioned on a performance ratio rather than a funding ratio?

If this is not the intent, may the offeror proportion the machine in such a way so as to minimize the combined Throughput Benchmarks of 1, 2, and 3 rather than by the financial ratio in C 4.2 Table 1?

3. Must the Throughput Benchmark used in the SLT calculation (C.6.1.2) be run in exactly the same manner as reported for the Throughput Benchmark (J.1.4.2) result, or for example may the SLT calculation be done assuming multiple instances of Throughput Benchmarks are run simultaneously (thus potentially yielding a higher SLT result)?

4. Which result will be weighted higher in evaluating an offering - the Throughput Benchmark or the SLT number - and in what ratio?

Answer: 1. It is correct that resources must be proportioned according to the funding profile in C.4.3 Table 1 of the RFP.

Further, while there is nothing "requiring" the temporal concurrence of workstream instances targeted to shared resources (i.e there is no requirement for spatial division in preference to temporal division), the start time of all workstream instances targeted to those shared resources is the same. Therefore workstream instances not started accrue wallclock time without actually getting any work done on that instance. It is up to Offerors to optimize the tradeoffs between running instances concurrently and/or serially (i.e. the tradeoffs between spatial division vs temporal division).

2. The primary proposal must adhere to the funding as stated in the RFP. On the other hand, the Government is always interested in innovative solutions. The Offeror is free to suggest alternative proposals which they feel may offer better value to the Government.

3. In the primary proposal, the Throughput Benchmark used in the SLT calculation (C.6.1.2) must be run in exactly the same manner as reported for the Throughput Benchmark (J.1.4.2). On the other hand, the Government is always interested in innovative solutions. The Offeror is free to suggest alternative proposals which they feel may offer better value to the Government. The SLT calculation will be made consistent with the accepted proposal.

4. In terms of performance, the Throughput Benchmark and SLT are identical. The SLT contains the availability as well as the throughput performance. The SLT is the sole performance metric for the proposal

Question 252. In the answer to question 112, the government stated that the PRTN site will have installed a total of slightly more than 7PB of data in 5 StorageTek silos using 9840, 9940 and Titanium media. Are all 5 of the StorageTek silos, tape drives and media to be provided as GFE with regards to the RDHPCS acquisition. Also, can the government please provide us with the number of Titanium drives, and the number of Titanium media that will be in place at that time.

Answer: Please see RFP question 87 and 112.

Questions 267, 268, and 269. RE: Clarification Requested for Storage and Media at GFDL Site - There appear to be significant discrepancies in relation to the amount of storage that is

to be installed, and available as GFE during the delivery schedule of the R & D systems. For instance, section C.11 Appendix C, Government Furnished Equipment (GFE) lists the Princeton site as having 4 StorageTek Powderhorn installed, and a total of 15,000 tape cartridges. Assuming that each of the SILOs can hold approximately 5500 cartridges, is it to be assumed that there are 7,000 slots that are currently empty. The answer to question 112 implies that a fifth SILO is being installed, and that a total of 7PBs of data will reside in storage at the Princeton site at the start of FY 2007 that needs to be retained for the nine year life of the R & D contract. Why would a fifth silo be required, if it currently has 7,000 empty cartridge slots. Could the Government provide an accounting of total media by type, total number of tape drives by type, total number of slots in robotic tape systems, and total number of free slots anticipated to be in place at the start of FY 2007.

Answer: Please see questions 87, 112, and 252.

Amendment 005 has revised the RFP. It gives the total GFE number of transports (tape drives) and media by type. The Government anticipates no significant amount of free slots in its current configuration.

Question 305. GRBLT Space - Is the vendor responsible for square footage cost at the government-provided NASA facility? If so, what fraction?

Answer: If the GSFC facility is incorporated into the vendor's proposal then the yearly cost for that facility is \$130K. The Government will withhold this amount from the contract each year to pay for the space.

Question 306. GRBLT Security - What are the specific requirements regarding security, both physical and IT, at the government-provided NASA facility? Are these the same as in the RFP as it exists now?

Answer: Physical security for GSFC is described in C.11.8 as of amendment 4. The IT security requirements are addressed in C.5.5.

Question 345. GRBLT Floor Space Ambiguities - Floor space calculations: The handout indicates the dimensions of the two rooms to be 40"x75" and 40"x50", giving a total of 5000 sq. ft. of space. The hand-out indicates that 5800 sq. ft. are offered but the Contracting Officer submission indicates that 5500 sq. ft. will be available. Please clarify the amount of raised floor space that will be provided.

Answer: 5800 square feet includes the portion of the corridor between the two major floor areas. The correct amount of offered space is 5500, all of which is raised floor.

Question 353. GRBLT Floor Tile / Ceiling Height Issues - 1.) Will the Government re-use the tiles currently installed in the room? 2.) Will the Government re-use the tiles currently installed in the room? 3.) Would the Government consider designing the room such that a portion of the room will be able to accommodate equipment higher than 7 feet? [See question above]

Answer: 1.) The intent is to raise the floor with new pedestals and reuse the stringers and floor tiles.

2.) Yes, the Government would consider upgrading the floor tiles based on the selected equipment.

3.) The Government will work with the selected vendor to accommodate equipment higher than 7 feet.

Note: The Government will pay for the modifications to the floor.

Question 363. The answer to RFP Q&A question 112 states, AT THE PRINCETON SITE, AS MENTIONED IN QUESTION 87, IT IS ANTICIPATED THAT BY THE START OF FY2007 THERE WILL BE SLIGHTLY MORE THEN 7PB OF DATA IN 5 STORAGE TEK SILOS USING 9840, 9940 AND TITANIUM MEDIA. ALL OF THIS DATA WILL NEED TO BE RETAINED FOR AT LEAST NINE YEARS. How many STK Titanium drives are being procured, and will these be GFE'd?

Answer: Please see questions 87, 112, 252, and 267. Question 87 has been revised. The RFP cites only 5PB of capacity and no Titanium transports or media for FY2007. Offerers will be notified if anything changes.

Question 365. Please clarify the maximum power that will be available to the Princeton Complex from the 2.5 MVA substation.

Answer: Currently, there is 1600 kVA available from the existing transformer. The Government, Princeton and PSE&G are considering options that might make as much 2500 kVA available in the future. Should the Government, Princeton and PSE&G reach agreement, the capital improvements needed to make the additional power available will not be paid for by the contractor.

Question 382. Lot I, CLIN 0001 specifies System Delivery and Installation as 1 LT for the life of the contract. We will be delivering and installing leased hardware to NOAA over the life of the contract and purchased equipment (mass storage) as required during the life of the contract. Considering that there will be multiple deliveries, 1 LT does not seem appropriate to cover multiple deliveries and installations. All other CLINS under Lot 1 are monthly payments. How does the Government suggest that CLIN 1 be used to account for multiple deliveries?

Answer: CLIN 0001, System Delivery and Installation, is intended to capture those costs involving site preparation that are incurred prior to delivery and acceptance of the initial system, and commencement of lease payments. However, actual payment of these costs will not be made until after acceptance of the initial system. Costs associated with subsequent system deliveries and system upgrades are to be included in the price proposal based upon the anticipated date of system delivery. For example, if the offeror proposes delivery of additional storage in month 14, the associated delivery and installation costs should appear in month 14 of the price proposal.

Question 384. Does PRTN's Computer Room have zinc whiskers?

Answer: No. The current HPCS contract integrator conducted a study recently during which it took samples from within the computer room. It had the samples independently analyzed and it was determined that they are negative for zinc whiskers.

Question 385. In Question #125, the Government indicated that it was tasking an engineer to evaluate the current chiller configuration at PRTN to determine what can be done to allow any two chillers to operate together. Are findings from this analysis available?

Answer: The following is a summary of the initial oral feedback that the Government has received from the chiller engineer who was contracted to analyze the current configuration and to propose a solution that allows the Princeton Complex to operate any two of the three chillers to support its cooling load (as discussed in RFP Question #125).

“The intent of the proposed chilled water piping modifications is to utilize a Primary / Secondary pumping system arrangement which will yield the benefit of allowing all three existing chillers to operate independently or together in any combination to match the load of the building. All three chillers will be interconnected on a 10” primary loop that will be hydraulically independent of the secondary loop. This arrangement will provide constant flow through each chiller, which will allow the maximum heat transfer from each machine.

A new variable speed secondary pump is to be provided to supply all of the chilled water distribution from the primary loop throughout the facility including the building comfort conditioning, the computer room ventilation air and the computer room water cooled stand-alone computer air conditioning equipment. All three-way chilled water valves within existing terminal equipment will be required to be replaced with two-way valves and a differential pressure gauge will be required to be located at the farthest point from the chilled water plant to monitor the differential pressure between the supply and return piping. The differential pressure gauge will be calibrated to vary the speed (and hence flow) of the secondary pump to match the chilled water demand of all equipment.

Two constant-speed back-up pumps shall be provided as part of the secondary pumping distribution system to provide redundant chilled water distribution to the computer room stand-alone equipment only in the event of a failure of the variable speed pump."

The engineer also provided an electronic DWG file showing a schematic of his proposed solution. Offerors may obtain a copy of this file by requesting it from the Contracting Officer.

The Government intends to implement the proposed solution. Accordingly, the modifications described above are planned to be carried out during the fall 2005 to winter 2006. These modifications will be done using funds outside of the R&D contract.

Question 386. As we are preparing our proposal for final production we are having trouble with the direction in L.6.1 that page numbers reflect the relevant section from Section C of the solicitation. There really does not seem to be a clear way to map Tabs and sub-tabs to Section C in a way that produces a good page numbering scheme. Is it possible that what was

intended was to make page numbers reflect tabs, such as T1-1, T1-2 etc for Tab 1 then T2-1, T2-2 etc for Tab 2 and the same for each Tab?

Answer: As stated in the second paragraph of L.6.1, Technical Proposals, the technical proposal must be arranged in the Tab format described in L.6.1.1. That is Tab 1 must address the Procurement Objectives, Tab 2 must describe the Benchmarks, etc. The third paragraph of L.6.1 will be revised in Amendment 0006 to read as follows: "The technical proposal must be prepared using the Times New Roman font in 12 point size for all text portions. It must be formatted to print double-sided on 8.5" by 11" paper with 1" margins on all sides. Page numbers must be printed in the bottom margin, centered. The requested hardcopies must be bound." Beyond the directions provided, the page numbering format for technical proposals is left to the offerors' discretion.

Question 387. Re: Facilities maintenance contract at GSFC - Who won the contract from LB&B?

Answer: The facility maintenance contractor at GFSC has no bearing on NOAA's R&D HPCS acquisition.

Question 388. PROPRIETARY

Question 389. In Reference to Amendment No. 0005 to Solicitation No. DG1330-05-RP-1038, clarification of the Governments intent to Paragraph Section C.5.6.1 is requested: Amendment No. 0005, Section C.5.6.1: If the Contractor is to reduce their FY2007 lease payments, how does the Government plan on reimbursing the Contractor?

Answer: As stated in C.5.6.1, the Contractor is responsible for all costs associated with the Phase II site preparation at GFSC. NOAA will be paying NASA for any Phase II site preparation costs associated with the GSFC facility. The adjustment to the payment profile mentioned in C.5.6.1 (as revised by Amendment 0005), is actually the Contractor reimbursing NOAA for the Phase II site preparation costs.

Question 390. GFDL persistent archive clarification - Please provide a summary for clarification of the 5PB vs. 7PB of storage that may be part of the persistent HSM from GFDL.

Answer: Answer to follow.